DEPARTMENT OF THE INTERIOR

Bureau of Land Management

Contains Information for Flight and Air Crewmembers.
11/4/2002
Including information on:

- **Aircraft & Mission Specific items.**
- **ASM, ATP& ATS Flight and Air crewmembers.**
- **Cell Phones.**
- **Flight Crew Members / Aircrew Members.**
- **Oxygen Requirements.**
- **Smokejumper Pilots & Contract pilots.**
- **Aircrew Members /REQUIRED TRAINING.**
- **Airspace. http://airspace.blm.gov**

2003 Aviation Standard Operations Procedures

NATIONAL AVIATION OFFICE

Bureau of Land Management

"*An SOP is a set of instructions or steps someone follows to complete a job safely, with no adverse impact on the environment (and which meets compliance standards), and in a way that maximizes operational and production requirements. Write SOPs for any processes an individual or group performs: unloading raw materials, manufacturing products, shutting down an operation, repairing a faulty electrical circuit, flying an aircraft and thousands of other workplace activities.*"

By Kenneth Friedman
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The following are Flight and Air Crewmember Standard Operations Procedures (SOP) that are to be complied with during BLM Flight operations.

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Bureau of land Management
National Interagency Fire Center
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Chapter

1

1.0 BLM Flight & Air Crew Member Standard Operations Procedures

1.1 The purpose of this Standard Operations Procedures Guide

This Guide provides flight and maintenance guidelines for BLM personnel assigned to BLM aircraft. For the employee to accomplish their work in a manner consistent with the standards of safety, reliability, comfort, and economy established by the Bureau and in compliance with the levels of protection afforded the flying public through the rules of the Department of the Interior (DOI) and BLM. These guidelines, as accepted practices, are to be complemented with good, sound judgment, and proper discretion in all cases in order to cover those situations for which specific procedures have not been drawn. All personnel are responsible for maintaining the expected high standards of this operation by presenting to the BLM National Aviation Office recommended revisions to correct errors and deficiencies, to add supporting procedures, and to delete guidelines contrary to the purpose of the guide.

SOP'S provide detailed guidance to **Flight** crewmembers and **Air** Crewmembers.

They do not supersede operational requirements already mandated by the FAR'S, DM, AIM, the Pilot Operating Handbook (POH), or the Aircraft Flight Manual (AFM). Throughout this SOP, the words must, shall, or will denote mandatory procedures. The words should, may, or can denote discretionary items or pilot techniques.

Chapter

2

2.0 Safety Standards

2.1 Safety

1. **Safety can be defined** as the steps we take to prevent property damage or employee injury. Risk is defined as the possibility of loss. It is the Bureau's policy to establish and operate with the highest of safety standards. Employees must operate within the scope of employment, following all Bureau policies and applicable Federal Aviation Regulations (FAR'S). The applicable parts of FAR 91and DOI/BLM regulations govern aviation operations. Safety is every employee's responsibility and will be enforced by all supervisors. Safety will come first in every mission. All ground/flight equipment and Bureau facilities will be maintained in top quality condition. It is the responsibility of each employee to bring to the immediate attention of the management any practices or operating conditions that could lead to an accident or violation or which may result in an unsafe operation.

Safety standards are observed in day-to-day operations include, but are not limited to, the following:

1. No flight crew will leave the controls of an aircraft unattended with the engines running.
2. No passengers will be onboard the aircraft while it is being fueled. If, for some reason, the passenger or passengers must remain onboard, a crewmember will remain with the passengers with a fire extinguisher. No passengers will be onboard the aircraft while the oxygen system is being serviced.
3. No passenger will board or de-plane while the engine is running when the passenger door is on that side of the aircraft. This does not include smokejumper operations (see ISPOG).
4. No aircraft will taxi between the ramp and another aircraft that is loading passengers.
5. No flight crewmember shall leave their assigned duty station except as specified in FAR 91.105. Only qualified flight crewmembers shall occupy required flight deck stations except with permission from the PIC or per the Single Pilot Tactical Aircraft mission profile.
6. No flight crewmember or passenger will smoke on board BLM aircraft.

Chapter

3

3.0 Job descriptions

3.1 Pilot in Command (PIC):

The PIC Operates the aircraft in accordance with applicable FAR'S and USDI/BLM policy. Conforms to applicable guides and handbooks relative to the mission assigned, and procedure and within contract specifications. Develops, activates, and files FAA or agency flight plans. Wears personal protective equipment if required. Does not deviate from the filed Flight Plan or mission profile unless prior authorization is received for safety of flight. Performs a thorough pre-flight inspection of the aircraft and briefs all passengers in accordance with 351 DM 1.5 and all applicable FAR'S.

3.2 Second in Command (SIC):

The SIC is directly responsible to the PIC. Duties and Responsibilities are for the safe and efficient conduct of the flight assignment. Will ensure that they are legally qualified, adequately rested, and on time. Will perform other duties as delegated by the PIC, but the PIC'S responsibility may not be delegated. Will function as a crewmember in accordance with approved Cockpit Resource Management procedures. Will perform according to the ISPOG and BLM SOP for smokejumper special use missions.

3.3 Flight attendant / Cargo Load Master:

The National Aviation Office or PIC will designate the need for a flight attendant or cargo loadmaster. Those persons will be directly responsible to the PIC. **Spotters** are not required on Point-to-Point Flights using Smokejumper aircraft.

3.4 Air Tactical Pilot:

Meets the requirements of PIC and complies with the Aerial Supervision Modules Operation Guide (ASMOG).

3.5 Air Tactical Supervisor:

Meets the training requirements for Single Pilot Tactical Aircraft as an Aircrew member and complies with the Aerial Supervision Module Operations Guide (ASMOG)

3.6 Smokejumper Spotter:

Meets the requirements for Single Pilot Tactical Aircraft training as an Aircrew member**. Smokejumper Spotters** are familiar with the type of aircraft and capabilities (avionics, payload, etc) Maintains daily fire readiness of jump ships. May coordinate air traffic over a fire if no ATGS, ASM, HELCO or Leadplane is on the incident. Will perform flight following however **the PIC remains** responsible. Sets mission priorities. Coordinates with the PIC on jump spot selection, type of pattern. May help with local navigation. Responsible for air to ground fire communications. Follows the direction of the PIC during aircraft emergencies. Ensures that the jumpers follow appropriate smokejumper and BLM policy and procedures. Spotters will provide accurate charge code information to the PIC in a timely manner. **Spotters are not required on Point-to-Point Flights utilizing Smokejumper aircraft.**

3.7 Fixed Wing Manager:

General: The Fixed Wing Manager is responsible for the operational missions of the aircraft and will work jointly with the PIC to ensure safe, efficient flight management. Fixed wing managers are assigned on all BLM flights to provide management oversight. Use of Fixed Wing Managers with a flight attendant is optional. The NAO, ordering office or the PIC will determine on a case-by-case basis the need for a Flight Attendant.

When onboard the aircraft, the Fixed Wing Manager is responsible for the incident/mission operations of the aircraft. The PIC is responsible for the operation of the aircraft and has final authority. On missions that only require the PIC to be onboard, the pilot shall assume the responsibilities assigned to the Fixed Wing Manager.

3.8 Dual Function / Incidental Pilot:

In order to qualify as a dual function pilot, the following steps must be taken:

1. A request to the NAO for development and implementation of a training pland and pilot file.
2. Letter of Authorization (LOA) on file, or PD amendment and OAS initial checkride.

Chapter

4

4.0 Crewmember Qualifications

Flight Crewmembers are defined as a person who is holding a valid FAA airman's flight and medical certificate appropriate to the operations being performed. The Pilot in Command (PIC or co -pilot) and designated to act in that capacity by the Bureau NAO.

Air Crewmembers are additional crewmembers required for the accomplishment of the mission, such an ATS, flight attendant, smokejumper spotter, cargo loadmaster etc. **Aircrew members do not fly the aircraft**.

4.1.0 Flight Crew Members

Flight Crewmembers must meet the following qualifications in addition to any FAR'S and Departmental Manual (DM) requirements.

4.1.1 Pilot in Command (PIC):

Pilot in Command Flight Crewmembers will be designated by the BLM NAO as PIC, and have an OAS or Interagency card issued as PIC.

1. **ATP Certificate** with the appropriate type rating for the aircraft flown (over 12,500# gross weight or jet)

2. **FAA or BLM /OAS/ Interagency** Pilot Proficiency Equipment Checks current within 12 months plus grace month. Current DOI or USFS 6 month IFR check for smokejumper operations. Current DOI or Interagency (USFS) mission approval for general or special use. Lower 48 or Alaska orientation checks are detailed in the Interagency Smokejumper Pilots Operations Guide and the Aerial Supervision Modules Operations Guide

3. **Annual refresher** for special use.

4. **Medical Certificate** appropriate to the operation and aircraft flown. Smokejumper Captains are required to have First Class Medicals.

4.1.2 Second in Command (SIC):

Second in Command / Flight Crewmembers will be designated by the BLM NAO as SIC, and have an OAS or Interagency card issued as SIC.

1. Commercial Instrument and Multi Engine ratings (no type necessary for transport category aircraft.) 351DM 3.2C.
2. DOI SIC issued card (current)
3. For smokejumper missions, five mission training flights initially and at least one refresher flight annually with Paracargo.
4. Second Class Medical Certificate

4.1.3 Flight Instructors:

Flight Instructors will be designated by the NAO and hold a valid FAA flight instructor certificates for the particular instruction to be given. That is to say that to give instrument instruction you would need to hold an *Instrument Instructor* rating, *Multi Engine Instructor* rating for multi engine instruction etc… For special use mission training please see the Interagency Smokejumper Pilots Operations Guide or the Aerial Supervision Module Operations Guide.

4.1.4 Smokejumper Pilot:

Smokejumper Flight Crewmembers will be designated as PIC by the BLM and Interagency (OAS or USFS) carded. Must meet and fulfill the requirements as PIC and the Interagency Smokejumper Pilots Operations Guide, BLM and Departmental Manuals. First class medicals are required for Smokejumper Captains. Second in Command's requires training in Smokejumper Operations per this guide, and meets the requirements of the Interagency Smokejumper Pilots Operations Guide.

4.1.5 Air Tactical Pilot:

Air Tactical Pilots will be designated as PIC by the BLM NAO and carded by the OAS. Must meet and fulfill the requirements as PIC and the Aerial Supervision Modules Operations Guide, Chapter 4, ATP training and checks.

4.1.6 Inspector Pilots:

Bureau Inspector Pilots are designated by the National Aviation Office and authorized by the Office of Aircraft Services with the appropriately issued card and training. For special use operations the ISPOG and ASMOG requirements are Bureau Policy.

4.2.0 Air Crewmembers

Air Crewmembers must meet the following qualifications in addition to any Federal Aviation Regulations (FAR), BLM 9400 and Departmental Manuals (DM).

4.2.1 Air Tactical Supervisor:

The ATS must meet and fulfill the requirements in the Aerial Supervision Modules Guide, Chapter 5, ATS training and checks.

4.2.2 Smokejumper Spotter:

Spotters will be designated and trained in accordance with BLM Smokejumpers Spotter training program. Spotters will attend a National Aviation Office approved Crew Resource Management course. Recurrent training in CRM and Human Factors is encouraged. Initial and recurrent spotter training will include Single Pilot Tactical Aircraft specific training and aircraft specific familiarization as required. The BLM 9400 Manual, OPM 01-22, DM and BLM SOP'S are policy.

- Spotters will become familiar with all applicable parts of the Departmental Manual and Federal Aviation Regulations (FAR 91 and 105) and BLM Standard Operations Procedures.

4.2.3 Cargo Load Master / Flight Attendant:

The National Aviation Office according to need will designate cargo loadmasters. Cargo/ Load Master / Flight Attendants will have initial and recurrent training every 12 months by a qualified Flight Crewmembers to include at least the following:

1. Preflight interior and exterior
2. Passenger briefings as required by the Federal Aviation Administration and mission specific by the DOI/BLM.
3. Emergency Procedures.
4. Passenger information cards.
5. Weight and Balance information.
6. Responsible to the PIC.

Chapter

5

5.0 Flight Operations

5.1 Two Pilot Operations:

A designated SIC, qualified to 351 DM 3.2C standards may be used on administrative transport flights that are not special use or mission specific and will be assigned by the NAO.

5.2 Single Pilot Operations:

The PIC of a single pilot aircraft will be designated by the NAO as PIC and operate according to BLM SOP, BLM 9400 manual, DM and FAR part 91.

5.3 Single Pilot Tactical Aircraft:

A trained Air Crewmember will perform functions trained for as directed by the PIC during special use missions such as ASM, Smokejumper and Paracargo or other fire suppression missions.

Any Air Crewmember not qualified as SIC (Second in Command), by FAR 135.235, BLM and DM policy and manuals, and occupying the right cockpit seat of any single pilot approved Tactical Aircraft, must receive mission specific training prior to being assigned to assist the PIC. These duties may include assisting the PIC with Checklists or other matters as directed by the PIC. Appropriate functions of the ATS or Smokejumper Spotter/ Loadmaster are:

1. Identification of appropriate checklists for mode of operation, i.e. "Take Off Checklist", Landing Checklist, and emergency checklists at the request of the PIC.
2. VHF and FM radio operations for fire related communications, agency flight following, and air-to-air with other fire fighting aircraft.
3. Other functions as directed by the PIC.
4. **Manipulation of the aircraft controls, operation of non-fire related avionics (TCAS, VHF radios, Multi function displays) and essential aircraft systems is NOT authorized**

5.4 Preflight:

The OAS-2 or 23, and the Deferred Maintenance Items Log (DMI) will be checked for discrepancies and insure they are properly deferred, in accordance with the MEL or repaired. For contracted aircraft, the individual companies procedures will be followed in order to determine airworthiness before departure.

The PIC is responsible for ensuring all preparations are made for flight. Pilots should arrive at their duty station at the appointed time, one hour prior to scheduled departure time when conditions allow. If both pilots are PIC Captain qualified, one will be designated as the PIC for the flight. Responsibilities include aircraft preflight, aircraft loading and securing cargo, aircraft fueling, and information required for flight. The PIC is responsible for preflight items, but may delegate the specific duties to a qualified flight crewmember. The PIC must initial the appropriate documentation that the preflight and weight and balance has been completed, and takes final responsibility for these items regardless of delegation of the duties.

The following preflight items must be checked immediately preceding the first flight after maintenance is performed:

1. All fluid and fuel levels confirmed.
2. Log entries (weight and balance, sign-offs).
3. Maintenance of flight controls and surfaces require visual confirmation of proper function.
4. Performance of proper engine, propeller, and fuel system checks prior to takeoff.

Note: For Special Use, Aircraft Standard Weight and Balance figures may be used while in a "standard and consistent" configuration for mission specific profiles.

5.5 Sterile Cockpit:

Sterile cockpit rules will be in effect within a 5-mile radius of the airport. The flight crew will perform no radio or cockpit communication during that time that is not directly related to safe flight of the aircraft from beginning taxi to 5 miles out and from 5 miles out until after landing and clearing the runway. Normally this would consist of reading checklists, communication with Air Traffic Control (ATC), Flight Service Stations, Unicom, or other aircraft with the intent of ensuring separation from other aircraft or complying with ATC requirements Communications can be accomplished when the audio panels can be isolated and do not interfere with flight operations of the pilot.

Exception: When conducting firefighting missions within 5 miles of an uncontrolled airport, maintain sterile cockpit until departing the traffic pattern and reaching final altitude. Monitor CTAF frequency if feasible while engaged in firefighting activities. Monitor CTAF as soon as practical upon leaving the fire and returning to the uncontrolled

airport. When conducting firefighting missions within Class B, C, or D airspace, notify dispatch that ATC communications will have priority over dispatch communications.

Landing Lights: Landing lights or pulse lights will be left on during sterile cockpit (5 miles from arrival/departure airport), or longer if conditions warrant.

Incident Reports: The SafeCom Form will be used to file any deviation from the DM or other unsafe flying condition, and will be routed through the OAS and the BLM electronically or by hard copy.

5.6 Flight/Duty Times:

Flight crews will not accept a mission when it is clear that it cannot be completed within flight / Duty times. **See the DM 351 1.3 Flight Limitations.**

When a flight crewmember has exceeded the daily flight/duty time limitations, prior to accepting, or being assigned duty, that flight crewmember must have a rest period of at least:

- **11 consecutive hours** of uninterrupted crew rest is required if the flight/duty time limitation was **exceeded by not more that 30 minutes.**

- **12 consecutive hours** of uninterrupted rest is required if the flight/duty time limitation was **exceeded by more than 30 minutes or more.**

- **The next calendar day off** if the flight/ duty day was exceeded by **more than 60 minutes.**

The PIC is required to complete and file a SafeCom.

5.7 STOL Operations:

STOL (Short Take Off and Landing) operations for back country airstrips will not be conducted without prior approval from the BLM NAO. See glossary for the definition of STOL.

5.8 Oxygen Requirements:

BLM operated aircraft comply with the **DM** and **FAR part 91** regarding oxygen usages.
§ 91.211 Supplemental oxygen. (a) General. No person may operate a civil aircraft of U.S. registry.

(1) At cabin pressure altitudes above 12,500 feet (MSL) up to and including 14,000 feet (MSL) unless the required minimum flight crew is provided with and uses supplemental oxygen for that part of the flight at those altitudes that is of more than 30 minutes duration;

(2) At cabin pressure altitudes above 14,000 feet (MSL) unless the required minimum flight crew is provided with and uses supplemental oxygen during the entire flight time at those altitudes; and

(3) At cabin pressure altitudes above 15,000 feet (MSL) unless each occupant of the aircraft is provided with supplemental oxygen. **This is not the entire FAR!**

5.9 Cellular Phones:

Effective December 12, 1991, the Federal Communication Commission (FCC) prohibited the use of cellular phones while aircraft are airborne. "Airborne" is defined as the time an aircraft is not touching the ground. FCC Regulation 22.925 requires all cellular telephones to be turned off when an aircraft leaves the ground. If a cellular phone is installed in an aircraft, the following notice must be posted on or near each cellular phone: The use of cellular telephones while this aircraft is airborne is prohibited by FCC rules, and the violation of this rule could result in suspension of service and/or fine. The use of cellular telephones while this aircraft is on the ground is subject to FAA regulations. If the aircraft is not airborne, the use of a cellular telephone is permitted unless the aircraft's operator or pilot-in-command determines its use will interfere with the aircraft's communication or navigational equipment.

Cellular phones and your aircraft communication equipment are somewhat alike. Both use frequencies that are "line-of-sight" and can travel great distances. Accessing multiple antennas (much like UNICOM). At altitude, using a cellular phone can severely disrupt cellular service. The penalty for violating this FCC regulation can reach up to $10,000. **Some cellular phones are authorized for airborne use;** however, they are not your typical cellular phones. References: FCC Regulation 22.925 Prohibition on airborne operation of cellular telephones. Report and Order. CC Docket No. 88-411

5.10 Use of intoxicants, mental and physical well being:

The use of intoxicants by any BLM personnel while on duty, or in the case of Flight Crewmembers, and Air Crewmembers within eight hours prior to flight, is prohibited. Nor may any BLM personnel be intoxicated or suffering from the after effects of drinking when reporting for duty or when on duty. Except in an emergency, the PIC *may not* allow a person who is obviously under the influence of intoxicating beverages to be carried in BLM aircraft. No person may drink any alcoholic beverages on board Bureau aircraft.

Use of drugs or hallucinatory drugs: The use of hallucinatory drugs by **Flight** and **Aircrew** members anytime during their employment with BLM, not under the supervision of qualified medical personnel, is grounds for termination. Certain drugs in common use

have a marked effect on the nervous system, which is temporarily detrimental to a flight crewmember's flying ability and judgment. Crewmembers should ask their doctor if any drug he has prescribed would have any effect on the nervous system. For use of any drugs prescriptive or non-prescriptive, for which no medical determination of effects have been determined, the crewmember shall advise the NAO, which will consult qualified medical personnel or Advisory Circular 91.11-1 for determination of flight status**.**

Mental and physical well-being: Flight crewmembers are expected to use good judgment relative to obtaining adequate rest prior to flights and reporting for flight duty when under serious mental stress (i.e., serious personal problems, serious family illness, etc.). When this type of condition prevails, flight duty personnel should coordinate with their immediate supervisor to have them temporarily re-assigned from flight duties. **Medical Exams:** Flight crew personnel will maintain a medical certificate appropriate to the flight operation. The medical exam will be given by an FAA designated medical examiner. First Class medicals are required for Smokejumper Pilot Operations. Notwithstanding, flight crew personnel should be in good physical condition while performing flight duties. If in poor physical condition, flight responsibilities should be re-assigned. The pilot's immediate supervisor will make this determination independently or upon the recommendation of the BLM NAO.

5.11 Personal Protective Equipment (PPE):

PPE will be properly worn (including gloves) for special use flights. All operations will be conducted according to the ALSE, except items under waiver. Helmets are waived for ASM and Smokejumper flight crewmember operations.

5.12 Flight into hazardous metrological conditions:

When a flight encounters or anticipates hazardous meteorological conditions, such as icing, hail, thunderstorms, severe turbulence, etc. The PIC, SHALL exercise their best judgment so to conduct the flight to minimize such hazardous conditions. If in the PIC'S opinion a deviation from the prescribed route is necessary, or advisable, such deviation from the route will be in accordance with procedures outlined in the FAR'S, AIM and BLM SOP.

5.13 Emergencies

Never hesitate to declare and emergency if one exists! It is a professional and conservative response to request and get all the help you can. In an emergency evacuation situation while operating with a single flight crewmember:

- Emergency passenger briefings should include the removal of glasses, pens and sharp objects.
- Putting heads down and protection with pillows or coats.
- Seat belts worn until the aircraft is completely stopped.
- Evacuation instructions with reassurances.

5.14 Weight and Balance:

Actual weights will be used to compute aircraft weight and balance information. Baggage and cargo will be weighed with an approved scale when available, other wise the PIC'S best estimation for the weight of cargo and passengers may be used. Standard weights may be used for certain personnel such as: Smokejumpers – 250 pounds, Fire Packs -45 pounds, Passengers – 200 pounds. All aircraft weight and balance data shall be either completed or checked and signed by the PIC prior to departure in order to determine compliance with the DM and FAR'S. Pre calculated mission weight and balance data meets the requirements as long as the weight information is current and reviewed prior to departure. The aircraft will not be flown unless the maximum gross takeoff weight is equal to or less than that allowed in the aircraft flight manual, and the center of gravity is with in limits.

5.15 Practice and Demonstration Jumps:

1. **The Departmental Manual and Federal Aviation Regulations** make it clear that the Pilot in Command is responsible for practice and demonstration jumps.

2. **There is no blanket waiver or immunity** available under public aircraft law for non-mission related jumps, such as normal practice jump training or demonstration jumps for public relations purposes.

3. **The National Aviation Office will** provide a Practice and Demonstration Jump Guide containing related information on Grants of Exemption, Departmental Manual, and Federal Aviation Regulations to accomplish both training and demonstration jumps. **See Appendix # 2**

5.16 Government pilots flying contract aircraft:

Government pilots flying contract aircraft must not only meet BLM requirements, but contractors training requirements as outlined in the contract. This includes MEL and weight & balance and aircraft operating procedures.

5.17 Prohibition against carriage of weapons:

Federal law provides that no person shall carry a deadly or dangerous weapon, either concealed or unconcealed, onboard an aircraft being operated by the BLM, except:

1. Employees or officials of municipal, state, or federal governments, who are authorized or required to carry arms and who present proper identification.
2. Passengers carrying sporting firearms that are dismantled and/or unloaded and encased in a suitable container authorized by the PIC.
3. Such other person, including crewmembers, authorized by the Bureau.
4. As part of a survival kit.

In no case will authorization for the carriage of deadly or dangerous weapons be granted if such authorization is contradictory to state or local laws or FAR'S. Small arms and automatic weapons are not authorized to be carried or worn in Canada. **Alaska law requires aircraft survival kits contain a firearm.** It is recommended that this firearm comply with Canadian regulations (rifle or shotgun) for ease of transit through Canadian airspace.

Aircraft parked with survival kits containing firearms should be kept secure, and should be unloaded during transport or storage in BLM aircraft. The contractor is responsible for security of firearms as well as the aircraft on a contract-operated aircraft.

5.18 Airspace

The BLM has identified a need to enhance safety and awareness in our current airspace system and has provided a website at http://airspace.blm.gov Temporary Flight Restriction (TFR) information on World Aeronautical (WAC), Sectional and Global Navigational Charts (GNC) has been made available at the BLM Airspace Information System website. TFR'S are updated twice daily, 7 days a week during the fire season, and once daily, 5 days a week during the rest of the year. In addition, a tactical chart with TFR specific information with incident names, frequencies and altitudes are available. **These charts are all current versions.** All aviators and fire staff are encouraged to view and use this site and others like it to improve overall safety of flight.

Extensive flight planning features that aid navigation through the airspace system are available through the BLM Airspace Information System website with the following group logins and passwords:

• BLM Aviation	Login:	blm@blm.gov	Password:	blmaviation
• Helicopter	Login:	copter@blm.gov	Password:	blmcopter
• Smokejumper	Login:	jumper@blm.gov	Password:	blmjumper
• Seat	Login:	seat@blm.gov	Password:	blmseat
• Dispatchers	Login	dispatcher@blm.gov	Password:	blmdispatcher
• National Park Service	Login:	nps@blm.gov	Password:	npsaviation
• Fish& Wildlife Service	Login:	fws@blm.gov	Password:	fwsaviation
• BIA	Login:	bia@blm.gov	Password:	biaaviation
• USFS Aviation	Login:	usfs@blm.gov	Password:	usfsaviation
• OAS	Login	oas@blm.gov	Password	oasaviation
• Minerals and Mining	Login	mms@blm.gov	Password	mmsaviation
• USGS	Login	usgs@blm.gov	Password	usgsaviation
• Air Tanker Pilots	Login	tanker@blm.gov	Password	tankeraviation

Chapter

6

6.0 Training

BLM Flight and Aircrew Members

(Includes Contract Smokejumper Flight Crew Members.)

6.1 .1 Fixed wing pilot recurrent and initial training:

This section provides the flight and ground training requirements for BLM Flight and Air crewmembers, including pilots, copilots, Smokejumper Captains (including contractors), ATP, ATS, flight instructors, check airmen, spotters and flight attendant/loadmasters. Alaska and the lower 48 with USFS specific requirements. Aircraft specific training and standards for interagency pilots and relief pilots.

6.1.2 Agency Flight Crew Members:

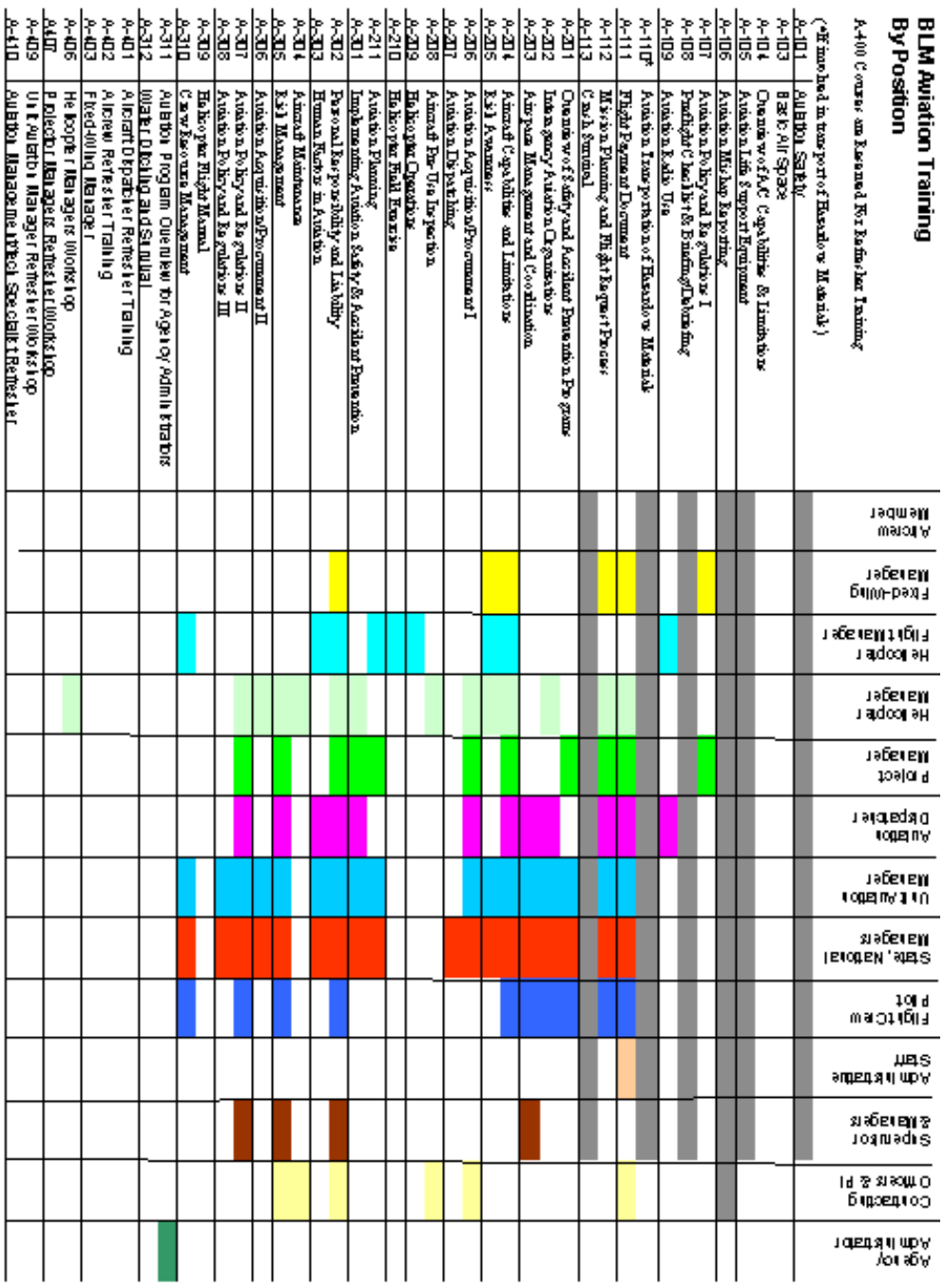
Initial and recurrent training standards are established for pilot proficiency in procedures and techniques. All training must be documented in the Flight Crewmembers training records.

BLM specific:

1. Initial and recurrent training will be to FAA Practical Test Standard (PTS) Guides and flown to the certificate held.

2. **NAO approved** simulator training on an annual basis. (See program specific requirements for Smokejumper Captain, ATP and ATS).

3. **Training Table's by position.**



BUREAU AVIATION TRAINING

POSITION	REQUIREMENT
PASSENGER	Standard Briefing by the Pilot or Fixed-wing or Helicopter Manager
	Pilot & Aircraft are OAS/FS Carded for the Flight
	Travel Is Between Public Use Airports or Controlled Helibases/Helispots

POSITION	REQUIRED TRAINING	
AIRCREW MEMBER	**A-101**	Aviation Safety
	A-104	Overview of Aircraft Capabilities & Limitations
	A-105	Aviation Life Support Equipment
	A-106	Aviation Mishap Reporting
	A-108	**Preflight Checklist & Briefing/Debriefing**
	A-113	**Crash Survival**
	A-110*	**Aviation Transportation of Hazardous Materials** ***(if involved in the transport of hazardous materials)**

These requirements are for the resource projects and does not include fire requirements which are covered in 310-1, Wildland and Prescribed Fire Qualification Guide.

4. **Departmental Manual:** See OPM 01-22 for more information DOI pilots are required to attend an Aviation Conference and Education (ACE) during their first 12 months of employment. See OPM 01-22 for more information. The required modules are listed below:

A101 Aviation Safety
A105 Aviation Life Support Equipment
A106 Aviation Mishap Reporting
A107 Aviation Policy and Regulations I
A110 Aviation Transport of Hazardous Materials
A111 Flight Payment Documents
A112 Mission Planning and Flight Request Process
A113 Crash Survival
A201 Overview of Safety and Accident Prevention
A202 Interagency Aviation Organizations
A203 Airspace Management and Coordination
A302 Personal Responsibility and Liability
A303 Human Factors in Aviation
A305 Risk Management
A307 Policy and Regulations II
A310 Crew Resource Management

All DOI pilots are required to complete the following modules or the equivalent every **4 years**. These modules can be completed by attending an ACE or via online computer based training**. Se**e OPM 01-22 for more information.

A105 Aviation Life Support Equipment
A106 Aviation Mishap Reporting
A110 Aviation Transport of Hazardous Materials
A113 Crash Survival
A203 Airspace Management and Coordination
A302 Personal Responsibility and Liability
A303 Human Factors in Aviation
A305 Risk Management
A307 Aviation Policy and Regulations II
A310 Crew Resource Management

All DOI pilots must obtain 30 credits of aviation-related training every 2 years. The options available to fulfill this requirement are listed below: *No. Training Credits*

1 DOI flight clinics: ski, float, off airport, low-level, LE/resource, etc.
(3-day minimum) 30 Emergency maneuver/spin training (with vendor, 8 hours) 30
2. Emergency maneuver/spin training (with vendor, 4 hours) 15
3. FAA certificate upgrade 30
4. CFI renewal clinic 15
5 FAA Wings Program (obtain one level) 4
6. FAA safety seminar (credits per seminar) 4
7. Flight review 4
8. Pilot safety course
   a Accredited college aviation course 5
   b Dunker training 5
   c Cool school or wet weather school 10
   d Aviation Conference and Education 10
9. Flight hours
   a Receiving training from a CFI (credits per flight hour) 5
   b Giving training to a DOI pilot (credit per flight hour) 1
10. IFR training
   a Formal simulator class (not PC-based) 30
   b Simulator or IFR flight with a safety pilot (credits per flight hour) 3
11. Expos (Oshkosh, Sun & Fun, AOPA, HAI, NBAA, etc.) 5
12. Factory schools (Bell, Cessna, Flight Safety, SimuFlite, SimCom) 15
13. Make and model ground refresher 5
14. DOI/bureau pilot ground school (3-day minimum) 30

6.1.3 Pilot in Command (PIC):

Agency pilots will be designated by the NAO as PIC and then must meet the following:

1. Initial flight and ground training in the aircraft to be flown, which meets FAA PTS, BLM and Departmental Manual standards.

2. Annual recurrent flight and ground training in the primary aircraft to be flown to include a minimum of a 1-hour refresher flight.

3. Annual OAS PPE checkrides, or equivalent (Flight Safety, SimCom) in each turbine or piston aircraft to be flown. (See OPM for "like models").

4. Maintains a current medical certificate for the operation and aircraft to be flown. Smokejumper Captains require a First Class Medical.

5. 61.58 PPE checkride for aircraft requiring more than 1 pilot.

6. Annual 12 month and 6 month Instrument Checks that meet FAA Practical Test Standards (PTS).

7. Annual recurrent training in FAR'S, DM and BLM Standard Operations Procedures (SOP).

8. Recurrent training in Crew Resource Management and Human Factors every 3 years.

9. Annual simulator training for the most similar aircraft to be flown.

10. **Special Use:**

Air Tactical Pilot (ATP) will:

a. Meets the requirements of the Aerial Supervision Module Guide (ASMOG)

b. NAO approved simulator training in the most similar aircraft to be flown, **will be every other year** from an outside source, such as Flight Safety or SimCom.

Smokejumper Captain continues next page.

Smokejumper Captain

a. **All Smokejumper Pilots,** including contract Smokejumper Captains, will meet the requirements of the Interagency Smokejumper Pilots Operations Guide (ISPOG). The Pilot Evaluation Board is for agency pilots only.

b. **For Bureau Pilots**, annual NAO approved simulator training in the primary aircraft to be flown (if available), **which will be from an outside source every year,** such as Flight Safety or SimCom.

6.1.4 Contract Smokejumper Captains and Second in Command:

Contract smokejumper pilots will meet the requirements established in the ISPOG (Interagency Smokejumper Pilots Operations Guide) with the exception of the Pilot evaluation board, which is for agency pilots only.

6.1.5 Second in Command (SIC):

1. A 12-month instrument checks that meet FAA Practical Test Standards (PTS) carded by the OAS (or Interagency).

2. Annual recurrent flight and ground training in FAR'S, DM and BLM Standard Operations Procedures (SOP).

3. Recurrent training in Crew Resource Management and Human Factors every 3 years.

4. Special use:

Smokejumper SIC:

1. **Meets the requirements of the Interagency Smokejumper Pilots Operations Guide (ISPOG)**

2. An initial SIC candidate must have **a minimum of 5 Smokejumper practice jumps** before assuming those duties. (This includes Contractors)

3. Annual refresher flight for smokejumper operations.

6.1.6 Instrument Currency:

PIC:

1. A 6-month IFR checks to FAA PTS guides and certificate held.

2. A 6-month check can be accomplished with 12-month equipment checks and/ or a PPE check.

SIC:

1. The annual 12-month check will also serve as the Instrument Check.

2. If not IFR current (FAR 91) after 6 months, a checkride will be given. It is the SIC'S responsibility to inform the PIC or supervisor this status.

6.1.7 Flight Instructors:

1. Must be designated by the NAO as a flight instructor and have a current instructor certificate.

2. Must be rated in the aircraft to be used.

3. Must meet the instructor qualifications for the appropriate Special Use Guide, such as the ASMOG, ISPOG, and ILOG as an Instructor.

6.1.8 Bureau Inspector Pilots

1. Must be designated as an inspector pilot by the NAO.

2. Completes OAS approved training and recurrent training.

4. Must be rated in the aircraft that will be used for instruction.

3. Must meet the inspector qualifications for the appropriate Special Use Guide, such as the ASMOG, ISPOG, and ILOG as an Inspector.

6.1.9 Checkrides:

- **All Checkrides will be to FAA PTS and Special Use** Guides, such as the ISPOG, ASMOG and ILOG .

6.1.10 Large Aircraft (over 12,500 pounds):

All Bureau Initial PIC'S in large aircraft (over 12,500 pounds gross weight) will certify through the Pilots Evaluation Board as determined in the ISPOG (Interagency Smokejumper Pilots Operations Guide and Smokejumper Screening Equipment and Evaluation Board, (SASEB).

6.1.11 NAO approved Simulator Training:

The National Aviation office currently recognizes Flight Safety, SimCom, and SimuFlight as sources for simulator training. This does not mean others are not approved, and the NAO staff will review simulator facilities at request. Simulator training is available through the use of the USFS WO simulator with approved instructors.

6.1.12 Simulated Single Engine Operations:

Single-engine training is emphasized heavily during the initial checkouts. The engine is not routinely shut down, but simulated. All pilots should have one experience flying with the engine actually shutdown and then going through an airstart. This event will be briefed ahead of time so that an optimum training experience will occur. The appropriate checklists will be used during the procedure. No engine shut down will occur in an impromptu manner - including checkrides. No condition, fuel, or prop levers will be moved aft during simulated engine failures in the traffic pattern or during approaches and departures. The check airman or instructor will move a power lever aft to simulate a failure, and may then set zero thrust when appropriate. At no time will engines be feathered below 1,000 feet Above Ground Level (AGL). Banks should be limited to standard rate during simulated engine out operations. **During Smokejumper PIC checkrides** the Spotter will be included in the briefing if a simulated emergency is to be performed.

6.2.0 Air Crewmembers

6.2.1 All Aircrew members, as required by OPM 1- 22, must take the following courses every 3 years. This must be documented. The Initial Air crewmember-training courses must be completed in a classroom setting, but thereafter it may be completed using the IAT online format.

- A-101 Aviation Safety
- A-105 Aviation Life Support Equipment
- A-106 Aviation Mishap Reporting
- A-110 Aviation Transport of Hazardous Materials
- A-113 Crash Survival

6.2.2 Air Tactical Supervisor:

1. **Documented initial** and recurrent training in BLM SOP'S, Federal Aviation Regulations (FAR'S 91) and OPM 01-22.
2. Meets the requirements of the Aerial Supervisors Modules Operations Guide (ASMOG).
3. Single Pilot Tactical Aircraft training annually. (aircraft specific).

6.2.3 Smokejumper Spotters:

1. **Documented initial** and recurrent training in BLM SOP'S, Federal Aviation Regulations (FAR'S 91 & 105) and the requirements of OPM 01- 22.
2. Initial and recurrent training in the Interagency Smokejumper Pilots Operations Guide (ISPOG).
3. Initial Crew Resource Management Training.
4. Aircraft emergency procedures (aircraft specific).
5. Single Pilot Tactical Aircraft training annually. (aircraft specific).

6.2.4 Flight Attendants and Loadmasters:

1. **Aircraft emergency** procedures (aircraft specific).
2. Weight and Balance briefing (if load master).
3. Training folder of Flight Attendant/ Loadmaster training.
4. Designated by the NAO.

Chapter

7

7.0 Aircraft Specific

Twin Otter/C23A Sherpa

7. 1. Twin Otter N49SJ

- **Engines: N49SJ** has PT 6-34 engines installed
- **Avionics: N49SJ** has a Class B TAWS and TCAS1 installed.
- **Fuel System:** N49SJ has a **standard wingtip fuel system**. It is imperative that a pilot review and understand the AFM regarding the fuel system prior to flight. .
- **Start**: After starting and bringing generators on line, do not retard either power lever from idle +15% until both generator loads are at .5 or less.
- **Checklists:** The approved checklist for the Twin Otter is the Flight safety checklist dated April 1997. For normal operations other than first flight of the day, the short checklist above the windshield may be used as appropriate.
- **The Bug System:** The Bug System is installed on N49SJ and used for special use and STOL missions. A copy of the airspeed table is available on request. STOL operations must have prior approval (see glossary).
- **Passenger carrying limitations:** N49SJ is equipped to carry 9 passengers or less.
- **Performance:** The Twin Otter will be operated at weights that will allow an initial single engine climb after Takeoff from a point 35 feet above the runway surface of 50 fpm.

7.2 Sherpa C23A/ Shorts 330 specific:

Introduction: This chapter describes operations specific to the Shorts C-23A Sherpa. Its goal is to standardize procedures to the extent possible to increase safe operations through standardization. **All BLM Sherpa/Shorts 330 Flight crewmembers will follow the Interagency Flight Management and Standardization Book, training courses (USFS) and those policies set forth below regarding BLM specific operations.**

Non-Standard Operating Procedures for C-23 Aircraft in Alaska: Operations into airports with runways of less than 3000 feet will not be permitted. Operations into airports with runways of 3000 feet or greater are permitted, provided takeoff parameters and all appropriate performance charts reviewed. Sparrevohn, Cape Newenham, Cape Romanzof, and Indian Mountain are considered "special condition" airports due to extreme runway gradientents and terrain proximity. Operation into or from these airports will be subject to the following standards:

1. **Pilots with documented experience** (logbook, OAS-2, Flight Check Form, etc.) Are considered operationally qualified into all four airports for 48 calendar months from the date of their most recent experience.
2. **Pilots with no previous experience** or pilots, who have allowed currency to lapse, must receive an orientation flight into at least one of these airports, with a qualified instructor pilot, prior to conducting flight operations as PIC.
3. **Orientation flights** must be performed in the same category of aircraft.
4. **IFR operations** into these airports must be conducted in "C" category with less than 20 knots or reported wind.
5. **One Alaska corporate jet** operator reportedly uses the following FAA approved takeoff briefing at airports such as these: "V1, add power, brakes off. " It is recommended the same frame of mind be set for BLM operations at steeply sloped airports.
6. **Special IFR Approaches:** The BLM has approval to use special IFR approaches at Missoula, Montana (BLM aircraft and crews only). These lower approaches require certain climb gradients and aircraft performance. Pilots must ensure that their aircraft meet all performance requirements before initiating a special approach.
7. **Operations on gravel and unimproved airstrips:** Performance notations for gravel airstrips are not noted in most aircraft handbooks or flight manuals, including the Sherpa Dash 1. Flight crews will add 10% to performance figures for soft gravel, 5% for hard gravel, and 15% for grass. For runway slopes over 2%, add 15% to performance figures for each 1% increase.
8. **Fueling:** To obtain another approximate 200 pounds of fuel in the Sherpa, complete fueling over the wing after wing stub fueling is complete.

Chapter

8

8.0 Aircraft Maintenance and Servicing

8.1 Fueling Procedures:

Bureau aircraft servicing must be accomplished by qualified personnel or must be supervised by qualified personnel. Aircraft preflight inspections should include draining fuel tank sumps of sufficient quantities of fuel to provide a positive indication of no water, microbiological, rust, or dirt contamination. When using an unknown or seldom used fueling source, flight crews or Bureau maintenance personnel will ensure that a clean fuel sample has been taken from the source of fuel prior to fueling. When parking an aircraft overnight in a climate conducive to tank condensation, the PIC should consider his next fuel requirements and possible fueling prior to securing the aircraft. Personnel fueling or supervising fueling of Bureau aircraft shall be particularly attentive that the correct type of fuel is pumped into the aircraft, and also that the protective mats and fuel nozzles are clean.

When contamination is observed as a result of improper fuel type, the crew will be guided by the aircraft flight manual with respect to allowable concentrations and will defuel the required amount of contaminated fuel and refuel as necessary. Any observation of fuel contamination will be entered in the Aircraft Flight Logbook with the corrective action taken.

It is the responsibility of the PIC to check the amount of fuel serviced at each station and correlates this amount with the total fuel as reported by the servicing agent and as indicated by the fuel gauges, or preferably by visual check. Smoking is prohibited inside or within 100 feet of a Bureau aircraft during fueling operations. Except when operational necessity dictates, electrical power will be applied to only those systems necessary for fueling the aircraft. When external power or the aircraft auxiliary power unit is operating, a flight crewmember or a qualified Bureau aircraft mechanic shall be present to monitor the aircraft and the fueling operation.

Only a flight crewmember may authorize the fuel order. Bonding, the first step in fueling an aircraft is properly grounding the airframe to an adequate grounding spot. Grounding the fueling vehicle or dispensing unit first, then attaching a grounding cable to a proper grounding spot on the aircraft is the procedure the procedure and policy.

Ensure that no obstacles are positioned under the wings or fuselage (such as ladders), which, as the aircraft lowers under the weight of fuel, will cause any damage to the aircraft. Ensure that brakes and chocks are as required for the aircraft. When fueling over the wing, ensure that the hose is brought to the fuel receptacle from the leading edge. Fueling vehicles shall be positioned no closer than 10 feet from the aircraft; the exhaust outlet shall be no closer than 20 feet from the filler point and fuel vents. Upon completion of fueling ensure that all fuel caps, fuel doors, and switches are properly secured. Remove grounding cables in the reverse order specified for attachment. All precautions taken for fueling operations apply to defueling operations.

8.2 Oxygen Servicing:

Smoking is prohibited inside or within 100 feet of Bureau aircraft during oxygen servicing. Oxygen servicing will not be accomplished during fueling operations. Passengers are not permitted onboard aircraft while servicing oxygen. Only those persons qualified to service oxygen are permitted to service Bureau aircraft. Particular attention will be given to the correctness of servicing, the cleanliness of the tools and personnel servicing the aircraft, and the absence of potential sources of ignition in the vicinity of the servicing.

Oxygen servicing is a maintenance function, any such servicing requires that maintenance personnel be appropriately rated, possess and use the correct current maintenance publications, and make the appropriate entries in the OAS-2 or 23. The PIC is responsible for ascertaining compliance.

8.3 Fleet Maintenance:

The BLM currently operates one fleet aircraft, N49SJ. Maintenance responsibilities through an agreement with the OAS are assigned to Guy Exxon of the OAS 208-387-5771

Contact information

- Guy Exon OAS 208-387-5771, Cell phone 208- 867-9774
- Ben Hinkle, BLM NAO, 208-387-5184, Cell 208-850-4311

Please see appendix 1 for BLM specific maintenance instructions and procedures.

8.4 Aircraft Minimum Equipment Lists

The Minimum Equipment Lists (MEL) will be used and complied with when approved for the aircraft. The MEL will be found in the back of the Aircraft Flight Manual, as well as directions to its use. The OAS-2 and Deferred Maintenance Items (DMI) Log must reflect the discrepancy being deferred via the MEL. The letter "M" denotes a maintenance function requiring a mechanic comply with the MEL; the letter "O" denotes the flight crew must comply. "INOP" stickers are found inside the flight logbook or maintenance notebook.

Inoperable items not listed in the MEL must be repaired before flight or a ferry permit must be obtained. In these instances, the CAM should be notified. Intermittently operating items are considered to be inoperative.

For contract aircraft the PIC will follow those specific procedures outlined within the contract and the contractor's requirements.

GLOSSARY OF TERMS

AIM - Aeronautical Information Manual, FAA Publication.

AFM - Aircraft Flight Manual.

ASM1- Aerial Supervision Module 1 (Low Level Lead Qualified).

ASMOG- Aerial Supervision Module Operations Guide.

ATC - Air Traffic Control.

ATP - Airline Transport Pilot FAA Rating.

ATP (Agency)- Air Tactical Pilot.

ATS -Air Tactical Supervisor.

BFR - Biennial Flight Review -- FAR 61.56.

CAM - Chief Of Maintenance, National Aviation Office.

CAT - Clear Air Turbulence.

CFI - Certified Flight Instructor.

CFII - Certified Instrument Flight Instructor.

CFMEI - Certified Multiengine Flight Instructor.

CG - Center of Gravity.

CREWMEMBER –

1. **Air Crewmember** - Additional crewmember required for accomplishment of the mission such as an ATS, flight attendant, smokejumper spotter, cargo loadmaster, observer, Helitack crew etc. These positions usually do not require any special Airman Certificate(s) or flight physical.
2. **Flight Crewmember** - A person who is a flight crewmember holding a valid Federal Aviation Administration (FAA) Airman's Certificate and flight physical as a prerequisite to performance of duties of the position during flight, e.g., a pilot, co-pilot, flight engineer, flight navigator.

CRM - Crew Resource Management.

DOI DM - Department Of Interior Departmental Manual

DOISPOG - Department of Interior Smokejumper Pilot Operations Guide.

FAF - Final Approach Fix.

FAR - Federal Aviation Regulations

Flight Manager - Any government employee (Federal or State) authorized to conduct specific missions (i.e., fire, law enforcement, aerial photography, resource, special use, reconnaissance, etc.) assigned as an air crewmember to BLM aircraft who has received the required knowledge and training to conduct missions and to ensure safe and efficient flight management.

FSI - Flight Safety International

IFR/IMC - Instrument Flight Rules/Instrument Meteorological Conditions.

IATBOG - Interagency Air Tanker Board Operations Guide

IHOG - Interagency Helicopter Operations Guide

ILOG - Interagency Leadplane Pilot s Operations Guide.

IP - Instructor Pilot.

MAFFS – Modular Aerial Fire Fighting System

MEA - Minimum Enroute Altitude.

MEL - Minimum Equipment List. FAA definition and document, part of the Aircraft Flight Manual.

Mission(s) - The term used in this SOP to cover operational aspects of BLM aircraft, Air Attack, Leadplane, Reconnaissance, Special Use, Aerial Photography, Law Enforcement, Resource, Smokejumper, etc.

NAO - National Aviation Office, Boise, ID.

Passenger - Any person aboard an aircraft who does not perform the function of a flight crewmember or air crewmember.

PIC - Pilot In Command.

PF - Pilot Flying.

PNF - Pilot Not Flying.

PPE - Pilot Proficiency Exam (FAA term for checkride in large aircraft-FAR 61.58).

POH - Pilot Operating Handbook

PTS - Practical Test Standard (FAA)

SASEB – Smokejumper Aircraft Screening and Evaluation Board

SIC - Second In Command.

SOP - Standard Operating Procedure

SPOTTER- is familiar with the type of A/C and capabilities. (Avionics, payload, etc.). Maintains daily fire readiness of the jump ship. May coordinate air traffic over a fire. (If no ATGS, ASM or lead plane is on scene). Will flight follow and sets mission priorities. Coordinates w/ PIC on jump spot selection, type of pattern, *may* help with local navigation and is responsible for air to ground fire communication. Provides fire information to the PIC. Follows the direction of the PIC during aircraft emergencies. Ensures that jumpers follow appropriate smokejumper procedures. Responsible to see the PIC has accurate information for record keeping for OAS 2's and 23's

STERILE COCKPIT - The flight crew will perform no radio or cockpit communication during that time that is not directly related to safe flight of the aircraft from beginning taxi to 5 miles out and from 5 miles out until after landing and clearing the runway

STOL - Short Takeoff and Landing. For the purpose of this document, STOL airports are defined by the USFS as "Mountain airstrips" designations, including the "back country airstrips" of central Idaho. Unimproved dirt airstrips in Nevada or Alaska, for example, are not considered "STOL" unless the aircraft cannot operate within its standard performance charts.

VFR - Visual Flight Rules.